

**IN THE CLAIMS:**

1.-10. (Withdrawn)

11. (Canceled)

12. (Currently Amended) ~~Process~~ The process according to claim 24, wherein the initiator comprises a chlorosilane, an alkoxy silane, a disulphide or a thiol group.

13. (Currently Amended) ~~Process~~ The process according to claims 24 or 12 wherein the initiator comprises a group chosen from azo groups, peroxy groups, or a ketone group in conjugation with an aromatic system.

14. (Currently Amended) ~~Process~~ The process according to claim 13, wherein the initiator comprises a group chosen from aromatic ketones or aromatic ketones containing sulphur.

15.-23. (Withdrawn)

24. (Currently Amended) A process for the production of a polyfunctional copolymer monolayer, comprising an assembly of copolymer chains attached to a surface wherein each polymer chain comprises a multitude of identical or different units carrying one or more functional groups which allow an interaction of the polymer chain with a sample or probe molecule, comprising the steps of:

a) immobilizing a ~~plurality~~ monolayer of radical or ionic polymerization initiators on said surface, wherein said initiators comprise one or more functional groups for linkage to the surface and subsequent polymerization reactions on said initiated surface;

b) initiating polymerization reactions in the presence of (a) a first set of identical or non-identical monomers, each of which comprise at least one functional group which can interact with a sample or probe molecule and (b) a comonomer, and

c) carrying out polymerization reactions in the presence of said monomers;

wherein the assembly of the polymer chains produced in step c) linked to said surface results in a polyfunctional copolymer monolayer.